IN THE SPECIFICATION

Please replace the paragraph beginning at page 6, line 26 and ending at page 7, line 15, with the following rewritten paragraph:

The pilot signal extractor 17 extracts the pilot signal (containing only an odd-order distortion component) from the radio-frequency signal (RF signal) from the Doherty amplifier 16 and supplies the RF signal to an antenna (not shown). In the case where the transmission signal S_S and the pilot signal S_P are set at different frequencies, the pilot signal extractor 17 is constituted by a directional coupler or power divider, and a band-pass filter that includes in its pass band the frequency of the pilot signal frequency-converted to the RF band. The RF band pilot signal extracted by the extractor 17 is applied to the frequency converter 18, wherein it is frequency-mixed by the mixer 18A with a local signal from the local signal oscillator 18B and frequency-converted to a baseband pilot signal, which is taken out by the band-pass filter 18C. The baseband-converted pilot signal is converted by the analog-digital signal to digital form. In the control part 21 an odd-order distortion component contained in the digitized pilot signal, generated by the Doherty amplifier 16, is used <u>as a control signal C_S</u> to control the parameter of the signal predistorter 13 to minimize the odd-order distortion component level of the pilot signal.

Please replace the paragraph beginning at page 8, lines 10-19, with the following rewritten paragraph:

In this embodiment, the pilot signal S_P and the transmission signal S_S are predistorted separately by different digital predistorters 13 and 23, then converted by different digital-analog converters 14 and 24 to analog signals, which are added together by an adder 22, and the added output is applied to the frequency converter 15. The control of the digital predistorters 13 and 23 after extraction of the pilot signal is effected synchronously <u>by the</u>

control signals C_{S1} and C_{S2}. Since embodiment is common in construction and in operation to the Fig. 2 embodiment except the above, no description will be repeated. The second embodiment allows the use of a digital-analog converter of low conversion speed.

Please replace the paragraph beginning at page 10, lines 3-26, with the following rewritten paragraph:

The illustrated digital predistorter 13 is configured to compensate for the frequency dependent distortion of the power amplifier 16 in Fig. 2 or 3. With an increase in the band of the transmission signal, it becomes more and more difficult to uniformly suppress distortion components produced by the power amplifier over the wide band. The frequency characteristic of the distortion components by the power amplifier depend on the nonlinear characteristic at its input or output side, in the case of FET, such frequency characteristic as gate-source capacitance, transconductance, drain conductance and so forth. A translation table of a conventional lookup table type digital predistorter sets therein data on a particular frequency only. In contrast thereto, the digital predistorter of this embodiment has frequency characteristic compensators 13F1, 13F2 and 13F3 at the input sides of the odd-order distortion generators 13A1, 13A2 and 13A3. The frequency characteristic compensators 13F1, 13F2 and 13F3 are each formed by an FIR filter, for instance, and the frequency characteristic can be adjusted by controlling filter coefficients by control signals C_{SF}. Alternatively, the frequency characteristic compensator may be formed by a series connection of a fast Fourier transformer (FFT) 13Fa, a vector adjuster 13Fb and an inverse fast Fourier transformer (IFFT) 13Fc as depicted in Fig. 5B. In the case of Fig. 5B, the added signal of the transmission signal and the pilot signal is transformed by FFT 13Fa to a frequency domain signal, then the amplitude and phase of the frequency domain signal (spectrum) are

adjusted by the vector adjuster 13Fb, and the adjusted spectrum is transformed by IFFT 13Fc to a time domain signal, which is applied to the third-order distortion generator 13A1.

Please replace the paragraph beginning at page 11, line 23 and ending at page 12, line 7, with the following rewritten paragraph:

This example is a combination of the embodiments of Figs. 5A and 6. The frequency characteristic compensators 13F1, 13F2 and 13F3 are placed at the input sides of the odd-order distortion generators 13A1, [[a3A2]] 13A2 and 13A3, at the output sides of which are also placed frequency characteristic compensators 13G1, 13G2 and 13G3, respectively whose frequency characteristics are controlled by control signals C_{SG}. This embodiment is common in construction to the Fig. 5A or 6 embodiment except the above. The configuration of the Fig. 7 embodiment is suitable for use when the frequency characteristic of the intermodulation distortion by the power amplifier 16 in Figs. 2 and 3 depend mainly on the frequency characteristic of the distortion component at both of the input and output side of the power amplifier 16. The respective frequency characteristic compensators are identical in construction with those in the embodiment of Fig. 5A.

Please replace the paragraph beginning at page 14, lines 4-18, with the following rewritten paragraph:

Fig. 9 illustrates in block form an example of the control part 21 for the digital predistorter 13 provided with the frequency characteristic compensators 13F1, 13F2, 13F3 or 13G1, 13G2, 13G3 as depicted in Figs. 5A, 6 and 7. This example shows only control for the third-order distortion component. The pilot signal extracted by the pilot signal extractor 17, then down converted by the frequency ~~converter18~~ converter 18 to the baseband, and converted by ADC 19 to digital form in Figs. 3 and 4, is provided to the third-order distortion

component extracting part 21A1 to thereby extract the third-order distortion component of the pilot signal. As is the case with the Fig. 8 embodiment, the level and phase of the extracted third-order distortion component are detected by the distortion component detector 21B of a vector adjustment controller 21V, and the thus detected level and phase are used to generate the third-order distortion component amplitude control signal C_{SA} and the third-order distortion component phase control signal C_{SP} by the amplitude/phase controller 21C.

Please replace the paragraph beginning at page 14, line 19 and ending at page 15, line 5, with the following rewritten paragraph:

To control the frequency characteristic compensators 13F1, 13F2, 13F3 (and 13G1, 13G2, 13G3), it is necessary to sweep the frequency of the pilot signal S_P in a predetermined frequency band (in the frequency band of the transmission signal). The amplitude and phase of each odd-order distortion component of the pilot signal S_P at each point of its frequency swept at predetermined frequency intervals are detected by a level detector 21FBL and a phase detector 21FBP of a distortion component detector 21FB. The detected amplitude and phase are stored in a memory 21FM associated with the control part 21. The memory 21FM stores amplitude and phase values corresponding to the swept frequency points. The stored numerical values are used <u>by an amplitude controller 21FCA and a phase controller 21FCP of an amplitude/phase controller 21FC</u> to control the parameters of the frequency characteristic compensators 13F1, 13F2, [[13f3]] <u>13F3</u> (and 13G1, 13G2, 13G3) of the digital predistorter 13 so that the frequency characteristic of the intermodulation distortion by the power amplifier 16 becomes flat.